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*(Separate Copy)*

⑤ *File*

May 18, 1964

Linear Phasolver Measuring Engine

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The Company has changed its name to the [redacted] Corp. and the division has changed its name to the Electronics Division. There has been no change of ownership or operating personnel.

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They submitted an over run request a while ago and action on it seems to be urgent. They will be out of money about Friday May 22 which is the end of this week. It was not clear whether they would be actually out of funds on the contract or whether they would reach some percentage point on Friday at which point they were obligated to stop work.

The electronics for the measuring engine have been completed and are being tested for drift and jitter errors. It appears that the electrical error contribution will be on the order of  $\pm .25$  microns.

The sine wave pattern plates being made by [redacted] are the critical items on the program. [redacted] sent them a 2" long sample for inspection. Part of the sample was acceptable and part of it was not. They have discussed the discrepancies with [redacted] and feel reasonable sure that [redacted] will correct them and can produce good patterns. They expect to get a full size pattern by the end of May. It will be inspected and then sent to [redacted] for preparation of the Driver plate. The present schedule calls for final system test from 20 July to 7 Sept. It is during this period that the demonstration of the sub-micron measuring capability would be demonstrated. The schedule hinges on receipt of a satisfactory plate from [redacted]

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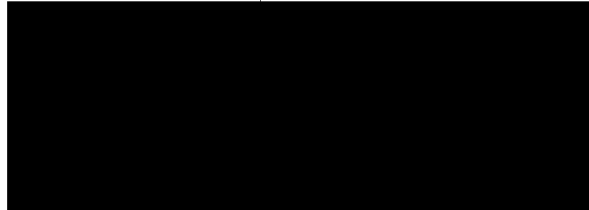
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There is some uncertainty in their mind regarding the stereo measuring requirement of the measuring machine which would incorporate their measuring engine. The flexibility of stereo viewing must include the capability of accomodating different scales between the stereo pair. This means that in traversing from one point to another on the film, the two stages on which are mounted the stereo pair must move at different speeds. They interpret the requirement to mean that when the first stage is stopped at a point, the second stage must be slaved to a corresponding exact point. This I think is not sound. Measuring must be done by

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only one stage. The other stage is used for stereo viewing. When moving to a new point, it is inevitable that the second stage will only achieve a close approximation of its true position. Final stereo registration must be achieved manually by moving the second stage with respect to the first one. When making the final precise alignment of the cross hairs for measuring, both stages should move together. When making the final precise alignment for stereo registration, the measuring stage should not move, the stereo stage only should move. ~~Of-course-with~~ Otherwise, it seems to me there would be errors introduced by the varying stereo accommodation of different individuals. Of course with both stages equipped for measuring, ~~ei~~ either could be the measuring stage or the stereo stage for a given set of measurements.

Extremely difficult complexity will be introduced into the machine unless it is assumed that only one stage will be measuring at any one time. ]



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